15CS551

USN ☐☐☐☐☐☐☐☐☐☐

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Object Oriented Modeling and Design

Time: 3 hrs.   Max. Marks: 80

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. What is Object Orientation? Explain the concept of OO themes. **(05 Marks)**

    b. Explain three kinds of models useful to model a system. **(05 Marks)**

    c. Prepare a metadata of CAR model that supports UML concept like class, attribute, association, association with ends and multiplicity. **(06 Marks)**

OR

2 a. Explain the following with examples:

    i) links and associations   ii) Aggregation and Association

    iii) Multiplicity   iv) Qualified Association. **(10 Marks)**

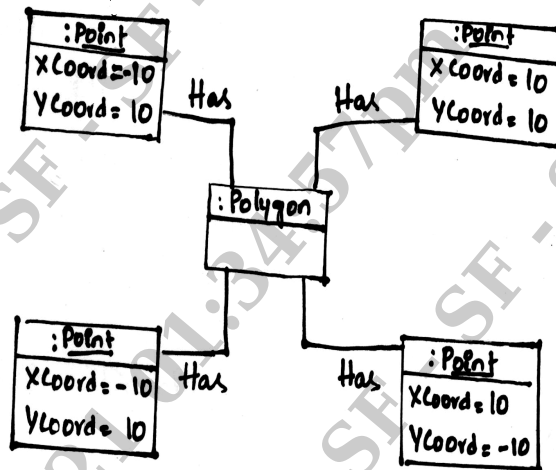   b. Prepare a class diagram from the object diagram shown in Fig Q2(b). Explain multiplicity decision.

Fig Q2(b)   **(06 Marks)**

Module-2

3 a. Explain use case diagram with an example. **(05 Marks)**

    b. Draw a use case diagram for order –entry subsystem with <<includes>>. **(05 Marks)**

    c. Explain Fully developed description used to document a use case. **(06 Marks)**

OR

4 a. Explain system sequence diagram notation with example. **(05 Marks)**

    b. Explain a simple state chart diagram with example. **(05 Marks)**

    c. Draw a second cut state chart for order. **(06 Marks)**

Module-3

5 a. Mention the questions to be answered for a good system concept. **(06 Marks)**

    b. Explain how unnecessary and incorrect classes can be eliminated. **(06 Marks)**

    Explain last step of class modeling (Group classes into packages). **(04 Marks)**

OR

6 a. Explain Domain state model. **(10 Marks)**
  b. Draw a sequence diagram for process transaction scenario. **(06 Marks)**

Module-4

7 a. With a neat diagram, explain design models with their respective input models. **(06 Marks)**
  b. Explain standard sterotypes found in design models. **(04 Marks)**
  c. Explain Cohesion and separation of responsibilities. **(06 Marks)**

OR

8 a. Draw first cut sequence diagram for lookup item availability use case. **(08 Marks)**
  b. Explain with an example communication diagram. **(08 Marks)**

Module-5

9 a. What is a design pattern? Describe design patterns. **(08 Marks)**
  b. Explain Prototype. **(08 Marks)**

OR

10 a. Explain how design patterns solve design problems. **(08 Marks)**
   b. Explain Proxy pattern. **(08 Marks)**

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